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LSD and the Law: A Framework for Policy Making

Stephen D. Ford*

I. INTRODUCTION

The law's regulation of drugs in our society has not always been rational. The present article grows out of a conviction that the law's approach to the regulation of LSD is a prime example of such irrationality. Anti-LSD laws have been born of panic and, more often than not, fathered by ignorance—ignorance of the drug itself and ignorance of the likelihood of achieving the lawmakers' ends. Indeed, study of many of the laws directed against LSD leads one to conclude that in some cases legislators had no clearly perceived ends. Little attention appears to have been given to the fruits of medical experience and research. This article is intended to correct this situation by attempting to outline a realistic program for the control of LSD in light of present knowledge about the drug and its effects. The framework of the analysis, however, is applicable generally when the question of legal regulation of other drugs arises, for the questions asked and the answers offered constitute an approach to one social problem which can be used in solving similar problems. For example, this type of analysis should be useful in answering the question of how the law should deal with marijuana. The latter is rapidly becoming a major social issue, but legislative reaction usually has been no more informed than in the case of LSD.

One must, of course, recognize that factors other than medical evidence may have to be considered by policy-makers faced with the question of whether the law should regulate a given drug. Even if the evidence provided by medicine leads to the conclusion that there is no more reason to regulate LSD than there is to regulate aspirin, legislative inquiry is not ended, for there may still be sociological, political, economic or cultural reasons for imposing some regulation. On the other hand, if medicine provides the law with abundant reason to regulate, other considerations become less significant. With this framework in

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mind, this article will outline present medical knowledge concerning LSD, indicate some of the major issues of LSD control which we must face as a result of this knowledge, and suggest the directions and extent of regulation which are warranted. My present aim is, therefore, modest. Only some of the issues of the general problem of drug control are examined. If in what follows not all of the answers are found, nevertheless, we may at least learn to ask the relevant questions.

II. THE DRUG, HOW IT WORKS AND WHAT IT DOES

A. The Drug

LSD is the synthetic diethylamide of lysergic acid, which is derived from ergot, a parasitic fungus growing on rye and wheat. It was first synthesized by Stoll and Hofmann in Basle, Switzerland, in 1938, and its effects on the human mind were discovered in 1943 when Hofmann accidentally ingested a small amount. Whereas the dosages of most drugs are measured in milligrams (thousandths of a gram), LSD dosages are commonly measured in micrograms or gammas (millionths of a gram). While an average dose of LSD may be 100 to 500 micrograms, a dose as small as 25 micrograms may have an effect.

LSD's 32-year history is well-chronicled, and it may surprise those whose acquaintance with the drug dates only from the recent period of its widespread abuse and publicity that there was a time when those who knew it best seem to have had few doubts of its potential for good. Research soon began to reveal some of the reactions which LSD could induce in the human mind, such as simulated states of schizophrenia and affective psychoses. It was early found that the body rapidly establishes

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tolerance to the drug, so that an increase in dosage is necessary to maintain the same effects with continued use.  


7. Lyons, Science’s Knowledge on the Misuse of Drugs and How They Act is Found to Lag, N.Y. Times, Jan. 9, 1968, at 18, col. 7.


9. Rothlin & Cerletti, Pharmacology of LSD-25, in Lysergic Acid Diethylamide and Mescaline in Experimental Psychiatry 1, 3 (L. Cholden ed. 1956); Axelrod, et al., The Distribution and Metabolism of Lysergic Acid Diethylamide, 66 Ann. N.Y. Acad. Sci. 435 (1957) (experiment in which cat tissues were examined after animal was given LSD); Idänpää-Helkkila & Schoolar, LSD: Autoradiographic Study on the Placental Transfer and Tissue Distribution in Mice, 164 SCIENCE 1295 (1969) (movement of the drug from the pregnant female to the fetus).

For discussion of the biochemistry of LSD in the human body, see Dixon, Evidence of Catecholamine Mediation in the “Aberrant” Be-
C. What It Does and What It Can Do

Despite the lack of definitive answers as to how LSD reacts chemically in the human body, we may take comfort in the fact that policy-makers need not be concerned with the “how” of LSD action, so much as the behavior which may be expected of those who have taken the drug. It is this behavior which the law will seek to regulate, in the interests of society at large or even to save the LSD user from himself. Fortunately, the symptoms of the LSD reaction and the behavior of those under its influence have been widely studied.10

1. “Standard” Reactions

The method by which LSD is administered has no apparent effect upon the type of reaction. The rapidity of onset of symptoms, however, is affected by the method of administration, with intramuscular injection being more rapid than oral ingestion, and intravenous or intraspinal application being most rapid of all.11 Regardless of how the drug is taken, subsequent administration of any one of several counteracting drugs—sodium amytal, methamphetamine, chlorpromazine—neutralizes the effects.12

The physiological and test performance responses most commonly observed in LSD users have been described as follows:

The basic physiological effects are those typical of a mild excitement of the sympathetic nervous system. The hallucinogens usually dilate the pupils, constrict the peripheral arterioles and raise the systolic blood pressure; they may also increase the excitability of such spinal reflexes as the knee jerk.

havior Induced by Lysergic Acid Diethylamide (LSD) in the Rat, 24 EXPERIMENTA 743 (1968); Hoagland, A Review of Biochemical Changes Induced In Vivo by Lysergic Acid Diethylamide and Similar Drugs, 66 ANN. N.Y. ACAD. SCI. 445 (1957); Jacobsen, The Clinical Pharmacology of the Hallucinogens, 4 CLINICAL PHARMACOLOGY AND THERAPEUTICS 480, 493, 495-96 (1963); Marchbanks, Inhibitory Effects of Lysergic Acid Derivatives and Resperine on 5-HT Binding to Nerve Ending Particles, 16 BIOCHEM. PHARMACOL. 1971 (1967).

10. The last few years have witnessed a massive outpouring of studies on the behavioral effects of LSD. There are over 900 articles in print on this subject alone. See generally Blacker, Jones, Stone & Pfefferbaum, Chronic Users of LSD: The “Acidheads,” 125 AM. J. PSYCHIAT. 341 (1968).

11. Hoch, Studies in Route of Administration and Counteracting Drugs, in Lysergic Acid Diethylamide and Mescaline in Experimental Psychiatry 8, 9 (L. Cholden ed. 1956). The dangers of jaundice and hepatitis from intravenous use of LSD have been described in Materson & Barrett-Connor, LSD “Mainlining,” 200 J.A.M.A. 1126 (1967).

12. Hoch, supra note 11, at 12.
Electroencephalograms show that the effect on electrical brain waves is usually of a fairly nonspecific "arousal" nature: the pattern is similar to that of a normally alert, attentive and problem-oriented subject, and if rhythms characteristic of drowsiness or sleep have been present, they disappear when the drug is administered. Animal experiments suggest that LSD produces these effects by stimulating the reticular formation of the midbrain, not directly but by stepping up the sensory input. There is usually some reduction in performance on standard tests of reasoning, memory, arithmetic, spelling and drawing. These findings may not indicate an inability to perform well; after taking a drug many people simply refuse to co-operate with the tester.\(^\text{13}\)

This distinction between the *inability* and the *refusal* to perform certain acts is not an important factor in deciding whether LSD should be regulated, for it makes no difference whether a person under the influence of the drug is unable to refrain from stepping in front of a speeding car or simply refuses to so refrain.\(^\text{14}\)

It has by now become a truism to say that each person's reaction to LSD is significantly dependent upon several variables other than the drug itself.\(^\text{15}\) This is a problem to which we shall return later, but for now let us try to isolate the LSD syndrome, the reactions to the drug seen most often, without special regard to what causes the symptoms. One early report\(^\text{16}\) classified the observed changes as either objective or subjective. The objective changes listed are similar to those quoted above. This report further divided the subjective changes into two groups: (1) those resulting from the toxicity of the drug and which are common to most patients, and (2) those which are manifestations of the patient's unconscious and are, therefore, peculiar to each patient. Comprising the first group were

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14. R. Alpert, S. Cohen & L. Schiller, *LSD 25* (1966). Note that once it is decided that some regulation is necessary, the distinction between inability and refusal to control conduct may become relevant in deciding on the particular form regulation is to take. Note also that the distinction may be viewed as simply a matter of semantics. From one perspective, it may not appear meaningful to speak of one who is "able" to perform well but "refuses" to do so; the fact of refusal, this argument would run, is born of an inability to comply. From another point of view, however, the distinction is meaningful—an uncontrollable inability versus a controllable refusal. It is submitted that should a legislature decide to regulate the drug, this latter perspective is more useful.
nausea, dizziness, the assumption of color by everything around the individual, the seeming plasticity of the environment and sometimes the seeing of faces. Comprising the second group were various hallucinatory experiences, reliving of repressed personal memories, appearance of impersonal unconscious images, depersonalization and detachment of the conscious self.

Another study found the following symptoms to be most frequent (in order of decreasing significance): things moving about the subjects, unsteadiness, paraesthesias, weakness, dream-like feeling, illness, nausea, dizziness, sensitivity of skin, peculiar feeling of limbs, inner trembling, sweating, lightness of limbs, blurred eyesight, difficulty in focusing vision and objects seeming too far away. Other investigations indicate that there may be impairment of both abstract thinking and some types of memory. Of interest to those charged with developing legal policy with respect to LSD are the findings that under the influence of the drug, time appears to pass more slowly than usual and the ability to control impulses is reduced. The latter discovery has obvious implications for the law and the former may bode ill for automobile drivers under the influence of LSD. Further, LSD has been found to enhance the suggestibility of persons under its influence. Although experience so far indicates that one must be somewhat skilled in psychology to exercise much control over an individual under the influence of LSD, it is possible that certain individuals, already predisposed to a given course of action, would respond in the drugged state to another's suggestion to undertake that action. This aspect of LSD's effects is similar to ordinary hypnosis, but it

17. Abramason, et al., Lysergic Acid Diethylamide (LSD-25): I. Physiological and Perceptual Responses, 39 J. PSYCHOL. 3 (1955). This study was supplemented by several others undertaken by members of the same team of researchers to explore further some of the results of the cited investigation; the findings were reported in the same journal as follows: 39 J. PSYCHOL. 127, 373, 435, 443, 455 & 465 (1955); 40 J. PSYCHOL. 39, 53, 337, 341, 351, 367 & 385 (1955). See also Lysergic Acid & Retalin in the Treatment of Neurosis 18 (T. Ling & J. Buckman ed. 1963).


remains for further research to discover to what extent, if any, the two are comparable.

One other extensive study should be discussed to summarize what has been said so far about reactions to LSD and to introduce the significance of variables (other than dosage) which account for the drug experience. Subjects in this experiment underwent extensive personality tests prior to administration of the LSD and were then given questionnaires while under the influence of the drug. The investigators summarized the results as follows:

Our subjects reported impairment of thought processes, judgment, and concentration . . ., loss of control over their thoughts . . ., and the feeling that their attention seemed to be captured involuntarily . . . A number of these items reflect a loss of control over the deployment of attention, manifested in our subjects as trouble in keeping their attention on the task at hand and their attention being drawn elsewhere without their volition.

All of the items in the questionnaire that ask directly about loss of control also fell into the high-acceptance set of items . . .

The subjectively experienced effects of LSD-25 on the body were shown in the symptoms of numbness . . ., feeling cold . . . or hot . . ., nausea . . ., feeling physically weak . . ., and finding it difficult to move. . . . The bodily effects consisted not only of these motility disturbances and somatic symptoms, but in disturbances of the body ego as well. Many subjects reported body-image changes . . ., such as changes in size, shape, weight, proportions, skin texture, or color. Feelings that the body had changed into that of a different person or the self at a different age were also reported, as was loss of ego boundaries. . . .

Loss of contact between the self and the environment was reflected in feelings of unreality . . ., loss of time sense . . ., and loss of reality contact. . . . Subjects also reported that they found it hard to talk . . .; this may have reflected a withdrawal from contact, as well as thinking difficulties and reduced motility.

Other symptoms were reported frequently though not in a majority of subjects:

This group of drug effects included distortions in the perception of people . . . and objects . . ., extreme feelings of loss of control, as represented by the feeling of being in the involuntary grip of thoughts . . . or emotions . . ., and the impression that an alien force had taken control of one's thoughts . . . or body. . . . Also included was the fear of going crazy . . ., and the fear of losing control. . . . Possibly related to the issue of control was anger or annoyance at the self . . .; the spontaneous

22. Linton & Langs, Subjective Reactions to Lysergic Acid Diethylamide, 6 ARCH. GEN. PSYCHIAT. 352, 359-60 (1962) (see Table I at 354-55 for a compilation of the results of this study).
comments revealed that this often occurred when the subject was bothered by his inability to function in an adequate manner.\textsuperscript{23}

All of this may be summarized by saying that the outstanding effects of LSD appear to include a loss of control in a number of areas, sometimes accompanied by fright or anger at oneself as a result of this loss. One is often unable to control his attention and an impairment of functioning occurs in many areas. Motility is disturbed and there is a feeling that the body is undergoing transformations. Emotional control and the feeling of contact with reality may break down and in some people perceptual distortions occur.\textsuperscript{24}

Two years later, the same researchers published an empirical interpretation of the study just described. The subjective symptoms reported by persons while under LSD were clustered on four scales. These were correlated with answers to a personality assessment and diagnostic summary based on the Rorschach Test given when the subjects were not in a drugged state. The results indicate the role played by factors other than the drug itself.

Scale A consisted of loss of inhibitions (particularly over thinking), elation, and the subjective feeling of having developed new powers of insight. The pre-drug personalities of subjects scoring high on this scale emphasized features of narcissistic character disorder with poor controls and a tendency to regress. Scale B included loss of contact with the environment, depriving it of a sense of meaning, an impaired sense of identity, feelings of having lost control, and paranoid ideation. High-scoring subjects on this scale were passive and masochistic, had a weak sense of identity, and showed a tendency toward primary process thinking. Scale C contained body image changes, somatic symptoms, and inhibitory effects; it was strongest in schizoid, passive subjects with poor defenses. Finally, Scale D included the fear of losing control, anxiety, and somatic effects; it was found in guarded and over-defended subjects.\textsuperscript{25}

The essential point here may be fairly summarized by saying that LSD simply makes manifest that which is present but latent. Those subjects who under normal circumstances were much occupied with themselves and held a rather high self-opinion were confirmed in this occupation and opinion under LSD; those who normally had a low opinion of themselves, were less self-occupied and viewed themselves as subject to the environment had these feelings exacerbated by the drug exper-

\textsuperscript{23} Id. at 360.
\textsuperscript{24} Id. at 361-62; S. Cohen, The Beyond Within: The LSD Story 257-58 (1965).
ience; those who had little sense of themselves in the first place saw themselves buffeted and unable to act while under LSD, and finally, those who had a very definite opinion of themselves and who had invested a great deal of emotional energy in the construction of that opinion suffered great fear in the drugged state of losing that carefully erected view. This principle of drug action on the human personality is applicable generally.

I think it is well for us to bear in mind a very important principle of pharmacology, which to the best of my knowledge has never been breached. That principle is simply that no drug ever introduces a new function into an organism; it merely accentuates or inhibits or otherwise modifies a function which already exists. We cannot expect drugs to introduce anything new into the mind or into behavior, but merely to accentuate or to suppress functions in behavior which are already present.26

This concept is not unfamiliar to lawyers used to dealing with issues of proximate causation in torts27 and the criminal law.28

To the two causative variables of the LSD experience we have so far discussed—the drug itself and the mental configuration or “set” of the individual taking it—must be added a third: “the social and psychological context, including the meaning to the individual of his act in taking the drug and his interpretation of the motives of those who made it available.”29 In focusing its regulation on the drug, the law is bound to influence this third element which affects an individual’s LSD experience. We shall have more to say on this subject later, but let us note here that it is precisely this variable, the setting in which the drug is taken, which has played a large role in adverse reactions to LSD.30

28. E.g., Hall v. State, 199 Ind. 592, 159 N.E. 420 (1928); State v. Frazier, 339 Mo. 968, 98 S.W.2d 707 (1936).
29. Barron, Jarvik & Bunnell, supra note 6, at 33. Klee, Bertino, Weintraub & Callaway, The Influence of Varying Dosage on the Effects of Lysergic Acid Diethylamide (LSD-25) in Humans, 132 J. Nerv. Ment. Dis. 404, 407-08 (1961), conclude that there are certain “fundamental effects” which appear almost universally and vary only with the dosage, while other effects are influenced by the individual’s psychological make-up and his social surroundings.
30. R. Alpert, S. Cohen & L. Schiller, supra note 14, at 29. The types of settings in which LSD is commonly taken have been described as: (1) informal professional (in which physicians, psychiatrists, psychologists and their friends take the drug); (2) therapy-patient; (3) religious-medical center; (4) experimental-subject, and (5) informal black market. See Utopiates: The Use & Users of LSD-25 22 (R. Blum & Associates ed. 1964).
particular, there has been much questioning concerning the effects of various drugs, including LSD, on the sexual function. With regard to the hallucinogens, at least, the plausible answer seems to be found in the social setting. "There is reason to believe that if the drug-taking situation is one in which sexual relations seem appropriate, the hallucinogens simply bring to the sexual experience the same kind of change in perception that occurs in other areas of experience."

2. Adverse Reactions

It is, of course, no surprise that the adverse reactions of subjects to LSD use is the one aspect of the drug which has most often found its way into the popular press. The accounts have not always been perceptive, to say the least, and in many cases they seem more designed for their value as flamboyant copy than for their usefulness in communication of factual information.

The purpose of this section is to examine what, in fact, have been the reported adverse effects of LSD use. These are the manifestations of the drug which have led to legal control, so it is imperative that we know exactly what this reported behavior


32. Barron, Jarvik & Bunnell, supra note 6, at 35.

33. A good discussion of some of the issues treated in this section is found in Ludwig & Levine, Patterns of Hallucinogenic Drug Abuse, 191 J.A.M.A. 92 (1965).

34. Levine & Ludwig, The LSD Controversy, 5 COMPREHENS. PSYCHIAT. 314 (1964), cites and comments upon articles in such periodicals as Esquire, Playboy, Look, Time and Saturday Evening Post. It is somewhat disconcerting to find in one of the nation's leading medical journals indications of this same alarmism. See Farnsworth, Hallucinogenic Agents, 185 J.A.M.A. 878, 879 (1963) where the Director of the Harvard University Health Services states:

Until we know otherwise it is prudent for us to assume . . . that regular use of the hallucinogens will prepare individuals to "move up" to other and more powerful drugs, such as morphine or diacetylmorphine (heroin).

This writer has found no evidence in his researches to warrant this "prudent" assumption. The following comment seems pertinent here:

Certain university health officials . . . have issued grave warnings about LSD that have caused serious alarm. One would wish that these officials would be equally diligent in trying to eradicate the genuinely harmful use of alcohol and cigarettes. Fremont-Smith, Preface, in The Use of LSD in Psychotherapy and Alcoholism XV (H. Abramson ed. 1967).
is. The light in which one views these effects will influence his entire attitude toward LSD.

Before examining the literature on adverse reactions to LSD, it should be remembered that with respect to at least some of the so-called dangers of the drug, the terms used to describe the effects may reflect at least as much of the observer's own bias as they do the observed behavior.

[1] Insufficient attention has been given to the effect of chronic use of hallucinogens on value systems. The ideas of chronic users tend to be more in keeping with contemplative Eastern philosophy than action-oriented Western philosophy. Whether to call this reaction an "adverse effect" depends on who is doing the labeling. 35

Even the term used to describe this class of drugs reflects these different views. They have been called "psychotomimetic," meaning a mimicker of psychosis; "hallucinogenic," meaning a creator of hallucinations, and perhaps more neutrally "psychedelic," meaning mind-manifesting. 36

A composite listing of the well-established adverse reactions to LSD, as recorded by various investigators, reads as follows:

(1) prolonged psychotic decompensation
(2) depressive reactions
(3) release of pre-existing psychopathic or asocial trends with acting out
(4) paranoid reactions, including confirmation of latent ideas of grandiosity by the transcendental aspects of the LSD experience
(5) precipitation of schizophrenic reactions
(6) acute panic reactions
(7) recurrence of symptoms in a period of abstinence after multiple ingestion. 37

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This is not an exhaustive listing of adverse reactions, but it does cover those observed frequently enough to have caused investigators to search for what, if anything, there was in common in the LSD experiences which produced them. All of these investigators state that two variables played the major roles in determining the reactions—the psychological set of the individual, and the environmental setting in which he took the drug. To be sure, the dosage of the drug, the remaining variable, did play a part, with adverse responses tending to occur at the higher dosage levels. The fact remains, however, that where the set and setting were supportive, a high dosage did not by itself "cause" the reactions listed above.

The importance of the individual's mental set is revealed by the table below. The results represent a study of nearly 5,000 persons who had taken LSD a total of over 25,000 times in experimental and therapeutic settings, both of which were presumably supportive.

**Estimated Rates of Major Complications Associated with LSD**

<table>
<thead>
<tr>
<th></th>
<th>Attempted Suicide</th>
<th>Completed Suicide</th>
<th>Psychotic Reaction Over 48 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Subjects</td>
<td>0/1000</td>
<td>0/1000</td>
<td>0.8/1000</td>
</tr>
<tr>
<td>Patients Undergoing</td>
<td>1.2/1000</td>
<td>0.4/1000</td>
<td>1.8/1000</td>
</tr>
</tbody>
</table>

Note that, except for a rate of psychotic reaction of less than one-tenth of one percent among the experimental subjects, all the recorded complications occurred among persons who were being given the drug in the first place because they had sought professional assistance with their psychological problems. Even among the patient group, however, the rate of untoward reactions was extremely low. "No instance of serious, prolonged physical side effects was found. . . . When major untoward reactions occurred they were almost always due to psychological factors." The significance of the individual drug-taker's psychology is further supported by a report of LSD experiences in Britain and

39. Id. at 30.
40. Id. at 30-31 (emphasis added). See text accompanying notes 47-56 infra.
by the two reports of homicide tied to LSD which the writer found in the literature.42

The role played by the setting in which the drug is taken is highlighted by this statement from one of the pioneers in LSD research.

If 100 mcg of LSD is administered to a group of so-called normal subjects, each member of the group will react differently, according to his personality structure and to the setting, or milieu, in which the drug is given. The attitude of the physician who administers the drug exerts a significant influence. An anxious physician inevitably produces an anxious subject. The disagreements and opposition to LSD therapy voiced by inexperienced or anxious investigators can easily be understood when seen in the context of these complicated variables.43

Also revealing is the following table ranking the categories most descriptive of the LSD experiences of 74 subjects receiving the drug in a supportive clinical setting:

*Categories Descriptive of LSD Experience*44

1. Euphoria, humor, relaxation
2. Understanding, meaning
3. Mystical sense of wonder
4. Aesthetic appreciation
5. Empathy or human closeness
6. Unity or religious feelings
7. Alertness
8. Perceptual distortion
9. Thoughts, recollections
10. Unusual body sensations
11. Somatic discomfort
12. Hypnagogic feelings
13. Imagery
14. Depression
15. Delusions, paranoia
16. Hostility, irritation

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44. Ditman & Bailey, Evaluating LSD as a Psychotherapeutic Agent, in The Use of LSD in Psychotherapy and Alcoholism 74, 76 (H. Abramson ed. 1965).
17. Anxiety, fear
18. Hallucinations

It is readily observed that the favorable reactions clearly out-rank the adverse.

The environment assumes such a crucial role in the determination of an individual's reaction to LSD because so much of that environment enters the drugged person's consciousness. Objects around him may suggest the presence of other objects not actually there. So it is that any gesture or remark made by someone in the room may take on a significance in the user's mind wholly unintended by the person making it.45

At the risk of anticipating the discussion in section III, we should note here the manner in which the law seeks to regulate the LSD experience. Of the three variables which we have identified as causative elements in an individual's experience with LSD, the law has elected (or been forced) to achieve its goal through manipulation of the very factor which is least responsible for a negative drug experience. Being either unable or unwilling to affect directly the setting in which the drug is taken or the mental set of those who take it, the law has chosen to regulate the drug itself. The greatest irony, however, is that despite what the law apparently intends, it does influence the environmental setting in which, and perhaps the mental set with which, the drug is taken. Since drug usage is forced underground and thus often occurs in an atmosphere charged with legal condemnation and fear of discovery, the influence exerted by the law exacerbates the adverse behavioral reactions sought to be eliminated. It is, of course, true that antisocial behavior associated with LSD use antedates the regulations placed on the drug by the law. On this basis, some type of legal control is warranted, but the present type is not only uncalled for, but may actually undermine the goal which society has given the law.

If taking the drug is defined by the group or individual, or by society, as immoral or criminal, one can expect guilt and aggression and further social delinquency to result; if the aim is to help or to be helped, the experience may be therapeutic and strengthening; if the subject fears psychosis, the drug could induce psychosis. The hallucinogens, like so many other discoveries of man, are analogous to fire, which can burn down the house or spread through the house life-sustaining warmth.46

We shall return to this line of argument below.

46. Barron, Jarvik & Bunnell, supra note 6, at 37.
3. Physiological Risks

The preceding discussion was premised on the idea that what the law seeks to control are the psychological and behavioral manifestations of LSD use. It was indicated that if this is so, attempted control of the drug is an awkward means to achieve the end. If, however, the use of LSD entails significant physiological risks, the means selected may be defensible. Are there such risks?

"The physical dangers are few. Dependence occurs in some personality types. A human death directly due to LSD poisoning has not yet been recorded."47 Addiction, we have noted,48 does not occur, and dependence may be viewed as a psychological, rather than a physical, state.

Within the past two years, the possibilities of chromosomal aberrations and teratogenic49 effects from LSD use have been raised. The evidence on these matters to date is inconclusive, and most researchers counsel against drawing premature conclusions.50 Studies of the effects of LSD on various types of animals have reached contradictory results. For example, experiments involving injection of LSD in pregnant females of several species have suggested that the drug may have adverse effects on the offspring.51 Other studies reach a contrary conclusion.52 There is also evidence that LSD injected in vitro into

48. See text accompanying note 6 supra.
50. E.g., "Whether these chromosomal aberrations will result in physical or mental defects in the user or his progeny remains to be seen." Louria, Medical Complications of Pleasure-Giving Drugs, 123 ARCH. INTERN. MED. 82, 84 (1969); "Our preliminary report at this moment cannot tell very much about the ultimate effects of LSD." Kato & Jarvik, LSD-25 and Genetic Damage, 30 DIS. NERV. SYST. 42, 46 (1969).
52. Grace, Carlson & Goodman, Drosophila melanogaster Treated with LSD: Absence of Mutation and Chromosome Breakage, 161 SCIENCE 894 (1968) (studying sperm cells from the male fruit fly); Warkany & Takacs, Lysergic Acid Diethylamide (LSD): No Teratogenicity in Rats, 159 SCIENCE 731 (1968). But see Skakkebaek, Philip & Rafaelsen, LSD in Mice: Abnormalities in Meiotic Chromosomes, 160 SCIENCE
cultured human leucocytes causes a marked increase in chromosomal abnormalities and breaks.\textsuperscript{53} Of primary interest, however, are the studies dealing with LSD’s in vivo effects on human chromosomes, and to date they offer no clear conclusions.\textsuperscript{64}

\textsuperscript{53} Cohen, Hirschhorn & Frosch, \textit{In Vivo and In Vitro Chromosomal Damage Induced by LSD-25}, 277 New Eng. J. Med. 1043 (1987); Cohen, Marinello & Back, \textit{Chromosomal Damage in Human Leukocytes Induced by Lysergic Acid Diethylamide}, 155 Science 1417 (1967). Two of these researchers admit in Hirschhorn & Cohen, \textit{Drug-Induced Chromosomal Aberrations}, 151 Ann. N.Y. Acad. Sci. 977, 984 (1968), that, “The most pertinent problem is of course whether these changes are potentially dangerous either to the individual taking the drugs or to his progeny. At this early stage of investigation there are no answers.”

\textsuperscript{54} Showing effects of LSD on human chromosomes: Nielson, et al., \textit{Lysergide and Chromosome Abnormalities}, 2 Brit. Med. J. 801 (1968); Egozcue, Irwin & Maruffo, \textit{Chromosomal Damage in LSD Users}, 204 J.A.M.A. 214 (1968); Irwin & Egozcue, \textit{Chromosomal Abnormalities in Leukocytes from LSD-25 Users}, 157 Science 313 (1967). Kato & Jarvik, supra note 50, at 46-46, remark that aspirin and caffeine have been known for several years to cause the same kind of chromosome breakage. Concerning the use of leucocytes to observe chromosome damage from LSD, the same authors state, “Let us not forget...that leucocytes are expendable, as any infection will demonstrate. The human organism is capable of eliminating damaged cells, be they somatic or gametic.” Jarvik & Kato, \textit{Is Lysergide a Teratogen?}, 1 Lancet 250 (1968). Smart & Bateman, supra note 52, at 808, note that there is no agreed basal rate of chromosomal abnormalities with which to compare the effects of LSD, and they conclude, “The wide range of accepted basal rates of abnormality must lead to reduced confidence in the conclusions about the effects of LSD.”

\textsuperscript{64} Showing no effects of LSD on human chromosomes: Sparkes, Melnyk & Boccetti, \textit{Chromosomal Effect In Vivo of Exposure to Lysergic Acid Diethylamide}, 160 Science 1343 (1968) (noting that studies finding LSD effects on chromosomes also find higher rates of breakage in control groups); Bender & Sankar, \textit{Chromosome Damage Not Found in Leukocytes on Children Treated with LSD-25}, 159 Science 749 (1968) (attacking Irwin & Egozcue, supra); Loughman, Sargent & Israelstam, \textit{Leukocytes of Humans Exposed to Lysergic Acid Diethylamide: Lack of Chromosomal Damage}, 158 Science 508 (1967). Slatis, \textit{Chromosome Damage by LSD}, 159 Science 1492 (1968), argues that Loughman’s data show statistically that LSD damages chromosomes. Loughman & Sargent reply, at 1493. Smart & Bateman, supra note 52, at 897, conclude: “The statistical criticisms of...the work by Loughman, et al., by Slatis do not materially affect the conclusions.” \textit{LSD and Chromosomes}, 2 Brit. Med. J. 778 (1968), sums up the research reported so far and notes that there is no clear evidence either way regarding LSD’s effects on...
One study reports that even if it were true that LSD users exhibit an unusually high incidence of chromosomal breaks and rearrangements, the level of chromosomal damage tapers off when the user stops taking the drug.⁵⁵

In summary, evidence linking LSD to birth defects exists but is weak; it is still questionable whether the drug is responsible for any chromosomal damage, and, if so, what dangers such damage might bring with it. For purposes of present policy, in dealing with the issue of physiological risks from the use of LSD, the law could do worse than follow the advice of one group of researchers who have worked with the drug:

> We strongly recommend that the social debate on the uses and abuses of LSD be based on what is actually known, from rigorously controlled experiments, rather than from conjecture, insufficient sample size, isolated case histories lacking rigorous controls, and subjective individual experience.⁶⁶

### 4. Medical Uses of LSD

LSD, unlike other outlawed drugs such as marijuana and heroin, has found a place in medicine. As early as 1949, physicians at Boston Psychopathic Hospital were investigating LSD's human chromosomes in vivo. The most recent study, conducted with carefully selected control groups, found "no definite evidence that pure LSD damages chromosomes in human lymphocytes in vivo..." Tjo, Pahnke & Kurland, LSD and Chromosomes: A Controlled Experiment, 210 J.A.M.A. 849 (1969).

Reports have appeared concerning babies born with one or more abnormalities of the limbs whose mothers were exposed or believed to have been exposed to LSD during pregnancy. Carakushansky, Neu & Gardner, Lysergide and Cannabis as Possible Teratogens in Man, 1 LANCET 150 (1969); Hecht, et al., Lysergic-Acid-Diethylamide and Cannabis as Possible Teratogens in Man, 2 LANCET 1087 (1968); Zellweger, McDonald & Abbo, Is Lysergic-Acid Diethylamide a Teratogen?, 2 LANCET 1086 (1967). Cort-Brown, Is Lysergide a Teratogen?, 2 LANCET 1154 (1967), questions some of the conclusions in the report by Zellweger, et al. Each report cautions against the premature drawing of definitive conclusions about a causal relation between LSD and such abnormalities. Cohen, et al., The Effect of LSD-25 on the Chromosomes of Children Exposed in Utero, 2 PEDIAT. RES. 486 (1968), report they have observed higher frequency of chromosomal aberrations in children exposed to LSD in utero than in a control group. However, they state, "In spite of obvious chromosomal aberrations, all of the individuals in this study were apparently healthy and showed no obvious birth defects." Id.

⁵⁵ N.Y. Times, Jan. 4, 1968, at 28, col. 3. Jacobson & Magyar, Genetic Evaluation of LSD, 24 CLIN. PROC. CHILD. HOSP. D.C. 153 (1968), feel that chromosomal breakage seen in children exposed to LSD during their mother's pregnancy has little consequence and will probably disappear as the children develop.

⁶⁶ Grace, Carlson & Goodman, supra note 52, at 696.
usefulness in the treatment of mental diseases. A considerable body of knowledge has developed on this subject, as well as on the use of LSD in treatment of alcoholism. In our quest for a legal policy which takes account of the medical facts, discussion of this knowledge is useful in two respects. First, it is worthwhile to see what the medical uses of the drug have been in order to determine how much, if any, useful work the current restrictive policy has curtailed. Second, the work of therapists with their patients throws additional light on the theoretical outline of the causes of drug reactions developed above.

One of the most useful contributions LSD has made to medicine is the reaffirmation it has given to the basic ideas of Freudian psychoanalytic theory. "If anyone wants confirmation of the great analytical principles laid down by Freud and Jung, let him study patients having LSD. The classical complexes and archetypes show in their abundance." Many of the reports of LSD in therapy employ the classical terminology of psychoanalysis to explain the effect of the drug on the patient's mental processes. A lessening of repression and an eroding of other ego defenses while in the drugged state are mentioned, and a general blurring of ego boundaries is described. By taking LSD themselves, psychiatrists and others who work with the mentally ill are able to experience some of what their patients may feel. One authority has suggested that any therapist proposing to use LSD in his work should first experience the drugged state himself. There may be benefits in such a requirement, for

57. The Use of LSD in Psychotherapy and Alcoholism (H. Abramson ed. 1967) is a good collection of recent papers dealing with many of the issues discussed in this section.
nurses at Boston Psychopathic Hospital who volunteered as subjects for LSD research reported that the experience gave them a greater understanding of their patients, and the doctors under whom they worked noted that the general ward care was substantially improved.62

Numerous accounts of the successful treatment of alcoholics with LSD have appeared,63 and despite some reports which held such treatment ineffective,64 the results of follow-up studies65 warrant an optimistic outlook. Even if the claim that "the recovery rate with LSD treatment is about ten times that of conventional techniques"66 turns out to be an overstatement, such treatment clearly has benefited some alcoholics. In this area, as elsewhere, the result largely depends upon the patient's whole personality67 and the setting in which the drug is administered.

Even more extensive work, with quite encouraging results,68


63. E.g., Vojtechovsky, Krus & Skala, Experimental Psychoses Induced by LSD and Benactyzine in Chronic Alcoholics, 8 ACTIV. NERV. SUP. 345 (1966); O'Reilly & Funk, LSD in Chronic Alcoholism, 9 CAN. PSYCHIAT. ASS'N J. 258 (1964); Jensen & Ramsay, Treatment of Chronic Alcoholism with Lysergic Acid Diethylamide, 8 CAN. PSYCHIAT. ASS'N J. 182 (1963); MacLean, et al., The Use of LSD-25 in the Treatment of Alcoholism and other Psychiatric Problems, 22 Q.J. STUD. ALC. 34 (1961); Chwetos, et al., Use of d-Lysergic Acid Diethylamide in the Treatment of Alcoholism, 20 Q.J. STUD. ALC. 577 (1959); Smith, A New Adjunct to the Treatment of Alcoholism: The Hallucinogenic Drugs, 19 Q.J. STUD. ALC. 406 (1958). For criticism of the methodology of some of these studies, see Hollister, Shelton & Krieger, A Controlled Comparison of Lysergic Acid Diethylamide (LSD) and Dextroamphetamine in Alcoholics, 125 Amv. J. PSYCHAT. 1352 (1969).


67. Id. at 428-34.

68. E.g., Langs, Stability of Earliest Memories under LSD-25 and Placebo, 144 J. NERV. MENT. DIS. 171 (1967); Malitz, The Role of Mescaline and D-Lysergic Acid in Psychiatric Treatment, 27 DIS. NERV. SYST.: SUPP. 39 (1966); Bender, D-Lysergic Acid in the Treatment of Biological Features of Childhood Schizophrenia, 27 DIS. NERV. SYST.: SUPP. 43 (1966). Two types of therapy with LSD have been developed: psycholytic and psychedelic. The former is characterized by lower dosages and has as its goal greater maturity; the latter, using much larger dosages, seeks for the patient the effects of the drug itself. Abramson, supra note 43, at ix.
has been undertaken in the treatment of mental illness with LSD. Here particularly, the recipient's mental set is important in determining his reaction to the drug. The reports indicate that LSD therapy may benefit some personality types but not others. Psychiatrists and analysts do not agree on precisely which problems are most amenable to some type of LSD therapy. Some idea has developed, however, as to the general nature of the persons who do seem to benefit:

Ideally, the LSD candidate must understand the nature of the treatment, must have a strong desire to change his adaptive mechanisms and understand that the LSD phase of the therapy is the beginning and not the end of treatment.

People suffering from an excessively strict conscience, those who have lost confidence and self-esteem, and those who are unable to overcome the grief of a personal loss are the best candidates. Generally, depressions due to situational factors are favorably influenced. Those "lost" people who are unable to find meaning in existence are particularly good candidates. Patients with anxiety or problems of passivity or aggressivity are amenable to treatment.

A study of the case histories . . . suggests that LSD is essentially a treatment for the mentally and educationally privileged, with a fairly high level of intelligence as an almost indispensable asset.

The drug does have the power to expand consciousness and to make one aware of a fundamental unity with all life processes. This increased awareness could be especially valuable to the following people: the non-neurotic, fairly well-integrated persons who are not troubled enough to seek professional psychotherapy; people who are aware of unpleasant feelings of alienation from nature and a growing dissatisfaction with our cultural goal of accumulating money and possessions; those who are discontented with mass-produced ideals and materialistic values; those who wish to be in touch with their deepest emotions instead of being constantly enmeshed in the web of abstractions spun by their own calculating intellects; and those who wish they could stop doing something continually so that they might have the opportunity to be their own individual selves.

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70. Abramson, supra note 66.


The importance of the environmental setting has also been affirmed by the therapeutic work with LSD. To assure the most useful response, psychiatrists have learned to go to great lengths to prepare the patient and his surroundings before the drug is taken.\textsuperscript{73} Adverse reactions have thereby been minimized, despite the fact that the psychological characteristics of this patient population might lead one to expect untoward responses.

Other uses for LSD, medical and otherwise, have been discussed from time to time: probation casework (used in England for habitual offenders, reportedly resulting in improved behavior and attitudes) and therapy for autistic children,\textsuperscript{74} chemical warfare,\textsuperscript{75} criminal and prisoner of war interrogation,\textsuperscript{76} enhancement of creativity\textsuperscript{77} and achievement of a religious-mystical experience.\textsuperscript{78} Whatever may be the possibilities or benefits, clinical use of the drug and research into its effects have virtually ceased in the United States as a result of restrictions imposed by the law. To an examination of the wisdom of this state of affairs and of directions for change we now turn.

III. THE ROLE OF LAW IN LSD

A. PRESENT LAW AND ITS CONSEQUENCES

In July 1965, Congress enacted the Drug Abuse Control Amendments of 1965\textsuperscript{79} to the Federal Food, Drug and Cosmetic Act.\textsuperscript{80} The focus of this law is on control of the drug itself by regulating its manufacture and sale; violations are punished

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\textsuperscript{73} Savage, et al., \textit{LSD: Therapeutic Effects of the Psychedelic Experience—A New Concept in Psychotherapy}, 4 J. NEUROPSYCHIAT. 69 (1962).

\textsuperscript{74} Abramson, \textit{LSD in Psychotherapy and Alcoholism}, 20 J. PSYCHOTHER. 415 (1966).

\textsuperscript{75} S. Cohen, \textit{Beyond Within: The LSD Story} ch. 11 (1965).


\textsuperscript{78} Pahnke, \textit{The Contribution of the Psychology of Religion to the Therapeutic Use of the Psychedelic Substances}, in \textit{The Use of LSD in Psychotherapy and Alcoholism} 629-42 (H. Abramson ed. 1969); R. Albert, S. Cohen & L. Schiller, supra note 77, at 48-49.


\textsuperscript{80} Rosenthal, \textit{Proposals for Dangerous Drug Legislation}, in \textit{The President's Comm'n on Law Enforcement and Ad. of Justice, Task Force Report: Narcotics and Drug Abuse} 80 (1967), contains an extensive analysis of the provisions of the recent legislation and a good discussion of some of the problems engendered by it.
criminally. The Secretary of Health, Education and Welfare is empowered to designate by regulation the drugs to which the provisions of the statute are to apply, and LSD is among those so designated.\(^8\) Under this federal law, possession of a regulated drug for one's own use or for the use of a member of his household is not punishable.

In 1966, Sandoz Pharmaceuticals, the only legitimate manufacturer of LSD in the United States, turned over its entire supply of the drug to the National Institute of Mental Health.\(^2\) Current NIMH policy is not to distribute LSD for use in psychotherapy\(^3\) and to encourage only research which is designed to uncover the dangers of the drug.\(^4\) This policy is to be contrasted with the usual method of dispensing research drugs, wherein the drugs are sent to the researcher upon request, and he simply reports the transaction to the Food and Drug Administration.\(^5\)

State laws\(^6\) are divergent in their precise restrictions on LSD, but they take an essentially repressive approach to the drug. Only Wyoming has no statute dealing expressly with drugs such as LSD, and among all the states regulating at least some of these drugs, only a few do not punish possession for one's own use.\(^7\) The states, therefore, regulate the drug even more harshly than does the federal government. The Massachusetts provisions may be taken as representative. LSD is classified as a narcotic,\(^8\) and simple possession is punishable by a fine of not more than $1,000 or by imprisonment for up to three and a half years.\(^9\) Simply being present and knowing that LSD is being kept illegally is punishable by up to five years imprisonment,\(^10\) and "inducing" another person to take the drug

\(^{81.}\) 21 C.F.R. § 320.3(c)(3) (1969). Enforcement was originally placed in the hands of the Food and Drug Administration. However, under Reorganization Plan No. 1 of 1968, 33 Fed. Reg. 5611 (1968), responsibility passed to the newly-created Bureau of Narcotics and Dangerous Drugs in the Justice Department. The Director of the Bureau is now the person with power to designate the drugs to be regulated under the statute.

\(^{82.}\) 24 Cosm. Q. 1149 (1966).

\(^{83.}\) Laughlin, LSD-25 and the Other Hallucinogens: A Pre-Reform Proposal, 36 GEO. WASH. L. REV. 23, 55 n.150 (1967).

\(^{84.}\) Id. at 26 n.20.

\(^{85.}\) Id. at 55 n.149.

\(^{86.}\) Id. at 55 n.100.

\(^{87.}\) See generally Rosenthal, supra note 80, at 86-90.

\(^{88.}\) E.g., Alaska, New Hampshire, Utah and Vermont; Id. n.100.

\(^{89.}\) MASS. GEN. LAWS ANN., ch. 94, § 197 (1966).

\(^{90.}\) MASS. GEN. LAWS ANN., ch. 94, § 205 (1958).

\(^{91.}\) MASS. GEN. LAWS ANN., ch. 94, § 213A (1960).
unlawfully results in a 10 to 25-year sentence.\textsuperscript{91}

Many of these laws appear to have been born of a panic reaction to a problem which was little understood at the time and which, partly because of the laws themselves, may not be made any clearer in the near future.\textsuperscript{92} Resort has traditionally been had to the criminal law to cope with issues for which time was not taken to find an alternative approach. The result in the case of LSD has been removal of the drug from use in areas where it has proved its beneficence (for example, the treatment of alcoholism and psychotherapy) and a virtual halt to research.\textsuperscript{93} But these are only two results of present legislation. On the basis of our findings above, we are in a position to theorize concerning its further possible effects.

We may accept the fact that some LSD use has continued and will continue in spite of the law. It is no doubt true that some persons who would otherwise take the drug are deterred by its illegality. But the price we pay for those who are deterred is indeed high. Traffic in and use of the drug simply go underground. This movement has several undesirable effects. It constitutes an invitation to organized crime, for where there is a demand for a product which has been removed from the open market, high profits are to be made.\textsuperscript{94} A second result is that "criminals" are made of otherwise law-abiding people.\textsuperscript{95} Third, present legislation, working as it does in a clumsy manner to remedy an ill-defined mischief, tends to discredit the law as an institution for social control in the eyes of those who remain unconvinced of the danger. Disrespect is heightened by the common knowledge that such laws are often poorly enforced or simply unenforceable.\textsuperscript{96}

It will be recalled that in analyzing the factors which de-

\begin{itemize}
\item \textsuperscript{91} MASS. GEN. LAWS ANN., ch. 94, § 217A (1960).
\item \textsuperscript{92} Chayet, \textit{Law, Medicine and LSD}, 277 NEW ENG. J. MED. 253 (1967). \textit{See also} 24 CONG. Q. 810 (1966) (letter to college administrators by Dr. James L. Goddard, Commissioner of the Food and Drug Administration).
\item \textsuperscript{93} Abramson, \textit{supra} note 66, at 415.
\item \textsuperscript{94} There have been reports that the Cosa Nostra is moving into illicit hallucinogen traffic. N.Y. Times, June 28, 1967, at 20, col. 1. Other sources disagree. Waldron, \textit{The Drug Scene: Illegal Traffic Is Valued at Up to $400-Million Annually}, N.Y. Times, Jan. 12, 1968, at 30, col. 1.
\item \textsuperscript{95} Arnold, \textit{The Drug Scene: A Growing Number of America's Elite Are Quietly "Turning On"}, N.Y. Times, Jan. 10, 1968, at 26.
\item \textsuperscript{96} \textit{See generally} E. SCHUR, CRIMES WITHOUT VICTIMS: DEVIANT BEHAVIOR AND PUBLIC POLICY: ABORTION, HOMOSEXUALITY, DRUG ADDICTION 1-8 (1965).
\end{itemize}
termine the nature of a person's experience with LSD, three broad elements were found to be important: the drug itself, the mental set of the person taking it and the environmental setting in which he takes it. Observe what effect present laws have on each of these elements. The drug itself, which is the least important of the three factors in producing a medically good or bad experience, is the target of present law. Both federal and state laws seek to take it out of circulation. However, instead of traffic in the drug ceasing, the channels of its circulation alter and users are exposed to potentially impure drugs of uncertain dosage. The quality-controlled product of Sandoz is replaced by the output of a basement chemist.

The psychological set of those taking the drug is not an element which the law has sought to influence, other than to deny the drug to persons of all sets whatsoever. What seems to have happened, however, is that the outlawing of LSD has contributed to its attractiveness among certain groups as a symbol of rebellion, and such groups are likely to contain some persons who are precisely those who should not have the drug. In addition, the law has caused those who take the drug to do so with the knowledge that their act has been defined by society as being roughly on a par with an addict's injection of heroin. Finally, of course, there exists the fear of arrest and prosecution. None of this provides the kind of psychological set which is conducive to a medically sound drug experience.

Perhaps the greatest and most harmful effect of present law has been upon the setting in which LSD is taken. Use has moved out of the therapist's office and the clinically supportive setting into a variety of places (under a number of circumstances) which can only increase the likelihood that the type of reaction we should be seeking to avoid will be exactly the one which occurs. An individual wishing to take the drug may be forced to abandon the setting in which he feels most comfortable and where he is most secure for one in which he hopes he is least likely to be detected. Furthermore, the outlawing of LSD, as mentioned above, may attract the wrong "sets" to the drug, and it may be that these people are, in addition, among those most likely to take it in the wrong setting.

In short, the present law is self-defeating, exacerbating those very conditions which contribute to the mischief it was enacted to remedy.
B. A Modest Proposal

As one element in any program, education of the public concerning the facts about LSD is needed. Such an undertaking would not, unfortunately, be writing on a clean slate. The minds of most people have already been filled with so much misinformation and so many half-truths that the initial efforts of education would have to overcome an already existing prejudice on most issues. Certainly there is a role here for the Food and Drug Administration and its counterparts at the state level. An informed populace is, of course, valuable for many reasons, not the least of which is the support which such a group can give to those seeking rational legislation to replace a policy which is the fruit of an emotional reaction. A second need is for the resumption of research on LSD, together with the re-establishment of its use in treating alcoholism and in psychotherapy. In these situations, with a carefully controlled setting, the risks have proved minimal and the benefits have been substantial.

Beyond these suggestions, an entirely new approach is needed for the regulation of LSD. Since the elements of mental set and environmental setting are the factors most responsible for determining whether an individual's experience with LSD is good or bad, efforts at regulation should influence these elements if the dangers of the drug experience are to be minimized. Our analysis has shown that not everyone should have LSD whenever he wants it; some control is warranted. On the other hand, we have established that not everyone needs to be prohibited from having it all the time. Some reasoned middle ground must be found. The outline which follows attempts to tread this reasoned middle ground, offering an alternative to the current restrictive federal legislation and even more repressive state laws.


98. It is perhaps not gratuitous to suggest that the education program should begin within these agencies themselves. Some judges have been receptive to the facts. See Oliver, A Judge Looks at LSD, 32 FED. PROB. 5 (March 1968). But see Tauro, Marijuana and Relevant Problems—1969, 7 AM. CRIM. L.Q. 174 (1969). Officials of the National Institute of Mental Health are also beginning to urge liberalization of the law. Iowa City Press Citizen, Sept. 18, 1969, at 10A, col. 1. See discussion at notes 57-78 supra.
In order to insure that the only persons who receive the drug are those whose mental sets indicate the likelihood of a favorable response, some system of screening should be established. Two types of tests would be instituted which, for want of better names, may be termed "achievement" and "aptitude." Anyone wishing to take the drug would be required to pass both of these examinations.

The achievement exam would reveal how much the applicant knows about LSD, including its risks. Questions might concern settings, dosages, reactions and other matters which research indicates those taking the drug ought to know.

The aptitude test is the more important of the two. Its function would be to find those persons who, because of their psychological make-up, may react adversely to the drug. The prototype of this exam is the current personality test. Researchers who have worked with LSD in experimental settings have had remarkable success in screening out those who should not use the drug. The literature on LSD research is virtually without reports of seriously adverse reactions when the drug is given to selected individuals in a supportive setting.

The tests would be administered at hospitals, clinics, special centers or even doctors' offices. They would have to be designed to avoid discrimination against any group so that a true measure of an individual's fitness to have LSD would be obtained. For example, the test which screens out the typical artist who should not have LSD might differ considerably from the test which screens out the typical lumberjack who should not have it.

Rather than have a simple pass-fail system, we might establish several categories which would determine the circumstances under which the drug could be taken. For any LSD use at all, success on the achievement test should probably be required. With respect to the aptitude test, however, there is room for more flexibility, allowing perhaps four groups to be distinguished.

In Group A would be those persons whose test results indicate that they could be trusted with the drug in a setting of their own choosing. Presumably, they could be relied upon to choose a setting contributory to a good experience. Group B would consist of those persons who need some type of supervision. For these individuals, a center might be established which would provide for either a certain degree of privacy or group arrangements, as preferred, but which would also include some measure of supervision. The settings provided for
people in this group could be varied, including some outdoors, some in a home atmosphere and some in a religious environment. Group C would contain those for whom drug usage is indicated only in a clinical therapeutic setting. Presumably the very taking of the drug, with the accompanying psychiatric treatment, would help persons in this group to move to Group A or B. The individuals in Group D would be those for whom no use of the drug is advisable.

Persons qualifying for Group A would be given a permit which would enable them to purchase LSD from a pharmacist licensed to sell it. This method of dispensing the drug would insure control of its quality and dosage. People in Groups B and C would obtain the drug where and when they actually took it. Some restrictions might conceivably be imposed on the number of times one could take LSD within a given time period, as well as on the size of dosage. I am inclined to argue to the contrary, however, on the ground that for every restriction erected, the chances of clandestine use increase. I would be in favor of placing initial faith in the educational program and the tests to insure safe usage. Some age restrictions might be warranted, and perhaps pregnancy and lactation should disqualify one from taking the drug. But boundaries drawn by the law should be kept to the minimum dictated by the facts revealed through research.

Admittedly, devising a test to perform this categorizing function would require considerable thought, for a qualitative analysis of responses rather than a simple count of “right” and “wrong” answers would be required. But imperfections in the testing procedure could be worked out in the course of time, and, in any event, the possibility of minimal flaws in the system of examination is no excuse for not beginning.

It is difficult to estimate with any certainty the sizes of the various groups. Naturally, the more people who qualify for Group A, the fewer administrative problems such a program would face. At the same time, standards must be maintained so as not to permit people to take LSD in settings not warranted by what is learned about their psychological sets. It is reasonable to believe that Group A would be the largest, with Groups B, C and D each being successively smaller. Psychiatric services would have to be made available for persons seeking to improve their classifications. Depending upon the extent to which this scheme would make LSD attractive to the population at large, there may be here a real opportunity to lay the foundations for
a more organized system of mental health services for our population than we now enjoy. Further speculations in this area, however, are beyond the scope of this article.

The testing procedure, the facilities for taking the drug and psychiatric assistance would cost money. Much of the expense could be defrayed by giving either the state or federal government a monopoly on the sale of LSD. A uniform price could be charged, with the possible exception of purchases for therapy or research, which would be sufficient to pay for the services rendered to the users. The competing interest in keeping the cost low enough so that no one is denied the drug solely because he cannot afford it might, however, mean that expenses will exceed revenue.

What we have been attempting to do in setting up a model of legal regulation of LSD is to avoid the consequences engendered by the present ill-wrought scheme, while at the same time providing a framework which will function in a positive manner in light of the facts provided by the medical sciences. This entails, among other things, removing restrictions where no restrictions are warranted. But we must acknowledge as a fact of life that, so long as the law finds it necessary to regulate LSD in any degree whatsoever, there will always be some illegitimate use. If that is so, some sanctions must be provided.

To begin with, misuse of a permit by a person in Group A (for example, obtaining the drug for someone else) would be grounds for its suspension or revocation. Wherever there are people who cannot take as much of the drug as they wish when and where they wish, criminal sanctions may ultimately be necessary as part of the scheme of control. The virtue of the proposal just presented is that sanctions could be brought to bear on those upon whom, in light of the medical facts, there is reason to bring them to bear. Simple possession under circumstances not allowed by one's group classification should not be criminal. Neither should simple misuse. The threat of permit revocation or declassification would exist and, at most, psychiatric assistance designed to help the offender attain a more favorable classification (thus eliminating much of the necessity to violate the law) could be required. However, since there is bound to be some illegal traffic, there may be a place for criminal sanctions, including imprisonment, for those who manufacture or sell LSD in violation of the regulatory scheme. Druggists who sell to those without a permit should at least lose their licenses and perhaps, depending on the severity or willfulness of
the violation, suffer incarceration. Unlicensed dealers and those who buy from them would also be exposed to prison terms.

IV. CONCLUSION

This proposal for LSD regulation makes use of knowledge provided by the medical sciences to focus on control of the settings in which the drug is taken and the mental sets of those who take it. It will be observed, however, that in the process the drug itself has been regulated. This approach is directly contrary to that taken by the present system of regulation, whereby the drug is attacked head on, and only incidentally are the other two determinative elements of the drug experience affected. It is submitted that the proposed scheme is more consistent with the findings of researchers as to the relative influence of each of the three factors in determining the nature of the LSD experience.

One caveat sounded at the beginning bears repetition here. This article has been, in a sense, a partial analysis of a complex social problem. The legal policy formulated may need alteration when other factors are considered. The role which LSD is to play in society cannot be determined by examining only the medical consequences of usage. Other issues—constitutional, moral and religious—will have to be resolved before an adequate solution can be found. Nonetheless, a situation so involving the human mind and body clearly cannot be decided without regard to the medical evidence. Yet this appears to be precisely what present legal policy has done.

No argument has here been put forth that the law should positively encourage the general use of LSD. Certainly, however, its uses in psychotherapy and the treatment of alcoholism should be reinstated, as well as its employment by qualified researchers. As for the rest, the law should erect its edifice of regulation based upon the soundest principles derivable from current knowledge, thereby justifiably hoping at least not to worsen the very conditions it was constructed to eliminate.

The reader may feel that some of what he has just encountered is a bit too close to a “Brave New World” to be

comfortable; the writer admits that so does he. The proposal is an attempt at compromise between the ideal and the all-too-real facts of life. A more satisfactory solution is to be found, no doubt, where the answers to so many other social problems lie—in a general improvement of the quality of American society. If some such improvement came to pass, then either the need which LSD fills would disappear or its usage would become simply one very minor aspect of social life. The policy makers of today may take comfort from the fact that only a complete abandonment of regulation is likely to lead to a more unhappy situation than the one existing at present. Such a conclusion augurs well for reform.